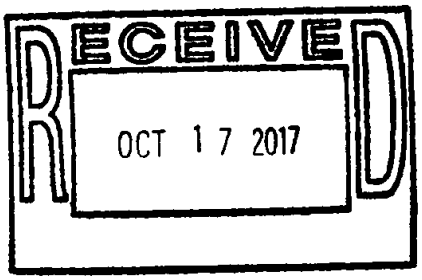
CALPINE CORPORATION

NYSE CPN

1200 ARCY LANE
P.O. BOX 551
PITTSBURG, CA 94565

October 13, 2017



Compliance and Enforcement Division
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105

Re: Delta Energy Center Facility B2095
Title V Semi-Annual Continuous Emission Monitoring Report
Reporting Period: April 1, 2017 through September 30, 2017

Attn: Title V Reports

Enclosed is the Title V Semi-Annual Continuous Emissions Monitoring Report for the Delta Energy Center (DEC) for the reporting period from April 1, 2017 through September 30, 2017.

DEC is currently in compliance with District CEMS regulations. There were no Notices of Violation (NOVs) issued to DEC during this period or any other enforcement action taken by the District.

If you have any questions, please contact Dale Donmoyer, General Manager (925) 252-2096 or Maria Barroso, EHS Specialist at (925) 529-8286.

As the Responsible Official, I certify that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

Sincerely,

Dale Donmoyer
Authorized Signatory and General Manager

Attachment

cc: Mr. Ali Anwar, California Energy Commission

Delta Energy Center
Title V CEMS Semi-Annual Monitoring Report
4/1/17-9/30/17

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S-1, S-3, S-5 TURBINES
S-2, S-4, S-6 HEAT RECOVERY STEAM GENERATORS

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
NO_x	BAAQMD 9-3-303	N		125 ppm	BAAQMD 1-520.1	C	CEM	X	
	BAAQMD 9-9-301.2	N		0.15 lb/MW-hr or 5 ppmv	BAAQMD 9-9-501	C	CEM	X	
NO_x	SIP 9-9-301.3	N		9 ppmv @ 15% O_2, dry	SIP 9-9-501	C	CEM	X	
	NSPS, 40 CFR 60.44 (a)(4)	Y		0.2 lb/MMBtu, 30-day rolling average	40 CFR 60.48 (b) and BAAQMD condition #17154	C	CEM	X	
NO_x	NSPS, 40 CFR 60.332 (a)(1)	Y		75 ppmv, @ 15% O_2, dry	40 CFR 60.334(c) and BAAQMD Confition 17154, Part 39b	C	CEM	X	
		Y		None	40 CFR 75.10	C	CEM	X	
NO_x	BAAQMD condition #17154, part 22a	Y		19.2 lb/hr, for each turbine and HRSG combined, except during turbine startup, shutdown, steam turbine cold start-up, or combustor tuning period	BAAQMD condition #17154, part 39b	C	CEM	X	
NO_x	BAAQMD condition #17154, part 22a	Y		19.2 lb/hr, for each turbine and HRSG combined, except during turbine startup, shutdown, steam turbine cold start-up, or combustor tuning period	BAAQMD condition #17154, part 43	P/A	Source test at maximum load	X	

Delta Energy Center
Title V CEMS Semi-Annual Monitoring Report
4/1/17-9/30/17

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
NO_x	BAAQMD condition #17154, part 22a	Y		0.00904 lb/MM BTU, for each turbine and HRSG combined, except during turbine startup, shutdown, steam turbine cold start-up, or combustor tuning period	BAAQMD condition #17154, part 39b	C	CEM	X	
NO_x	BAAQMD condition #17154, part 22a	Y		0.00904 lb/MM BTU, for each turbine and HRSG combined, except during turbine startup, shutdown, steam turbine cold start-up, or combustor tuning period	BAAQMD condition #17154, part 43	P/A	Source test at maximum load	X	
NO_x	BAAQMD condition #17154, part 22b	Y		2.5 ppmv, @ 15% O_2, dry, for each turbine and HRSG combined, 1-hr average except during turbine startup, shutdown, steam turbine cold start-up, or combustor tuning period	BAAQMD condition #17154, part 43	P/A	Source test at maximum load	X	
NO_x	BAAQMD condition #17154, part 22b	Y		2.5 ppmv, @ 15% O_2, dry, for each turbine and HRSG combined, 1-hr average except during turbine startup, shutdown, steam turbine cold start-up, or combustor tuning period	BAAQMD condition #17154, part 39b	C	CEM	X	
NO_x	BAAQMD condition #17154, part 23	Y		240 lb/turbine during start-up	BAAQMD condition #17154, part 39b	C	CEM	X	
	BAAQMD condition #17154, part 23	Y		80 lb/turbine during shutdown	BAAQMD condition #17154, part 39b	C	CEM	X	
	BAAQMD condition #17154, part 23	Y		300 lb/turbine during steam turbine cold start-up or combustor tuning period	BAAQMD condition #17154, part 39b	C	CEM	X	

Delta Energy Center
Title V CEMS Semi-Annual Monitoring Report
4/1/17-9/30/17

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
NO_x	BAAQMD condition #17154, part 36a	Y		1990.8 lb/day for turbines and HRSGs combined	BAAQMD condition #17154, part 39b	C	CEM	X	
	BAAQMD condition #17154, part 37a	Y		240.2 ton/yr for turbines and HRSGs combined	BAAQMD condition #17154, part 39b	C	CEM	X	
CO	BAAQMD condition #17154, part 22c	Y		46.75 lb/hr, for each turbine and HRSG combined, except during turbine startup, shutdown, steam turbine cold start-up, or combustor tuning period	BAAQMD condition #17154, part 43	P/A	Source test at maximum and minimum load	X	
CO	BAAQMD condition #17154, part 22c	Y		46.75 lb/hr, for each turbine and HRSG combined, except during turbine startup, shutdown, steam turbine cold start-up, or combustor tuning period	BAAQMD condition #17154, part 39b	C	CEM	X	
	BAAQMD condition #17154, part 22c	Y		0.022 lb/MM BTU, for each turbine and HRSG combined, except during turbine startup, shutdown, steam turbine cold start-up, or combustor tuning period	BAAQMD condition #17154, part 43	P/A	Source test at maximum and minimum load	X	
	BAAQMD condition #17154, part 22c	Y		0.022 lb/MM BTU, for each turbine and HRSG combined, except during turbine startup, shutdown, steam turbine cold start-up, or combustor tuning period	BAAQMD condition #17154, part 39b	C	CEM	X	
CO	BAAQMD condition #17154, part 22d	Y		10 ppmv, @ 15% O_2, dry, for each turbine and HRSG combined, 3-hr average except during turbine startup, shutdown, steam turbine cold start-up, or combustor tuning period	BAAQMD condition #17154, part 39b	C	CEM	X	

Delta Energy Center
Title V CEMS Semi-Annual Monitoring Report
4/1/17-9/30/17

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
CO	BAAQMD condition #17154, part 22d	Y		10 ppmv, @ 15% O_2, dry, for each turbine and HRSG combined, 3-hr average except during turbine startup, shutdown, steam turbine cold start-up, or combustor tuning period	BAAQMD condition #17154, part 43	P/A	Source test at maximum and minimum load	X	
CO	BAAQMD condition #17154, part 23	Y		2514 lb/turbine during start-up	BAAQMD condition #17154, part 39b	C	CEM	X	
CO	BAAQMD condition #17154, part 23	Y		902 lb/turbine during shutdown	BAAQMD condition #17154, part 39b	C	CEM	X	
	BAAQMD condition #17154, part 23	Y		9,750 lb/turbine during steam turbine cold start-up or combustor tuning period	BAAQMD condition #17154, part 39b	C	CEM	X	
CO	BAAQMD condition #17154, part 36b	Y		12,756.4 lb/day for turbines and HRSGs combined	BAAQMD condition #17154, part 39b	C	CEM	X	
CO	BAAQMD condition #17154, part 37b	Y		1,105.4 ton/yr for turbines and HRSGs combined	BAAQMD condition #17154, part 39b	C	CEM	X	
CO_2		Y		None	40 CFR 75.10	C	fuel flow monitor and CO_2 calculation	X	
SO_2	BAAQMD 9-1-301	Y		GLC[1] of 0.5 ppm for 3 min or 0.25 ppm for 60 min or 0.05 ppm for 24 hours		N		N/A	
	BAAQMD 9-1-302	Y		300 ppm (dry)		N		N/A	
	NSPS 40 CFR 60.43a (b)(2)			0.2 lb/MMBtu, 24 hr average except during startup, shutdown		N		N/A	

Delta Energy Center
Title V CEMS Semi-Annual Monitoring Report
4/1/17-9/30/17

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
SO_2	NSPS 40 CFR 60.333	Y		0.015% (vol) @ 15% O_2 (dry) or total sulfur content of fuel less than or equal to 0.8% sulfur by weight (8,000 ppmw)	NSPS 40 CFR 60.334 (h) (3) (ii) and BAAQMD Condition 17154, Part 57	P/M	Fuel sulfur content testing	X	
SO_2		Y		None	40 CFR 75.11, 40 CFR 75, Appendix D, part 2.3		Fuel measure-ments, calculations	X	
	BAAQMD condition #17154, part 14	Y		Fuel sulfur content of 1.0 gr/100 scf	BAAQMD condition #17154, part 57	P/M	Fuel testing	X	
	BAAQMD condition #17154, part 37e	Y		18.42 ton/yr for turbines and HRSGs combined	BAAQMD condition #17154, part 40	P/D	Fuel sulfur content testing, natural gas usage records, calculations	X	
Opacity	BAAQMD 6-1-301	N		> Ringelmann No. 1 for no more than 3 minutes in any hour		N		N/A	
Opacity	SIP 6-301	Y		> Ringelmann No. 1 for no more than 3 minutes in any hour		N		N/A	
FP	BAAQMD 6-1-310	N		0.15 grain/dscf		N		N/A	
FP	SIP 6-310	Y		0.15 grain/dscf		N		N/A	
	BAAQMD 6-1-310.3	N		0.15 grain/dscf @ 6% O_2		N		N/A	
	SIP 6-310.3	Y		0.15 grain/dscf @ 6% O_2		N		N/A	

Delta Energy Center
Title V CEMS Semi-Annual Monitoring Report
4/1/17-9/30/17

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
Opacity	BAAQMD 6-1-304	N		During tube cleaning, Ringelmann No. 2 for 3 min/hr and 6 min/billion btu/24 hours		N		N/A	
Opacity	SIP 6-304	Y		During tube cleaning, Ringelmann No. 2 for 3 min/hr and 6 min/billion btu/24 hours		N		N/A	
PM_{10}	BAAQMD condition #17154, part 22h	Y		9.0 lb/hr, for each turbine and HRSG combined	BAAQMD condition #17154, part 43	P/A	Source test at maximum load	X	
PM_{10}	BAAQMD condition #17154, part 22h	Y		0.00424 lb/MM BTU, for each turbine and HRSG combined	BAAQMD condition #17154, part 43	P/A	Source test at maximum load	X	
PM_{10}	BAAQMD condition #17154, part 36d	Y		648 lb/day for turbines and HRSGs combined	BAAQMD condition #17154, part 40	P/D	Records, calculations	X	
	BAAQMD condition #17154, part 37d	Y		118.26 ton/yr for turbines and HRSGs combined	BAAQMD condition #17154, part 40	P/D	Records, calculations	X	
POC	BAAQMD condition #17154, part 22f	Y		5.33 lb/hr (as CH4) for each turbine, and HRSG combined except during turbine startup, shutdown, steam turbine cold start-up, or combustor tuning period	BAAQMD condition #17154, part 43	P/A	Source test at maximum load	X	
POC	BAAQMD condition #17154, part 22f	Y		0.00251 lb/MM BTU (as CH4) for each turbine, and HRSG combined except during turbine startup, shutdown, steam turbine cold start-up, or combustor tuning period	BAAQMD condition #17154, part 43	P/A	Source test at maximum load	X	

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
	BAAQMD condition #17154, part 23	Y		48 lb/turbine during start-up	BAAQMD condition #17154, part 40	P/D	Records, calculations	X	
POC	BAAQMD condition #17154, part 23	Y		16 lb/turbine during shutdown	BAAQMD condition #17154, part 40	P/D	Records, calculations	X	
	BAAQMD condition #17154, part 23	Y		96 lb/turbine during steam turbine cold start-up or combustor tuning period	BAAQMD condition #17154, part 40	P/D	Records, calculations	X	
	BAAQMD condition #17154, part 36c	Y		478.2 lb/day (as CH4) for turbines and HRSGs combined	BAAQMD condition #17154, part 40	P/D	Records, calculations	X	
POC	BAAQMD condition #17154, part 37c	Y		64.68 ton/yr for turbines and HRSGs combined	BAAQMD condition #17154, part 40	P/D	Records, calculations	X	
NH_3	BAAQMD condition #17154, Part 22e	N		10 ppmv, @ 15% O_2, dry, averaged over 3 hrs for each turbine and HRSG combined except during turbine startup, shutdown, steam turbine cold start-up, or combustor tuning period	BAAQMD condition #17154, part 39c	C	Ammonia injection rate monitor	X	
Formal-dehyde	BAAQMD condition #17154, part 38a	N		5691 lb/yr for turbine and HRSGs combined	BAAQMD condition #17154, part 41	P/D	Records, calculations	X	
Formal-dehyde	BAAQMD condition #17154, part 34a	N		5691 lb/yr for turbine and HRSGs combined	BAAQMD condition #17154, part 44	P/every two years on P-1, P-2, or P-3	Source test	X	
Benzene	BAAQMD condition #17154, part 38b	N		704 lb/yr for turbines, HRSGs, and auxiliary boiler combined	BAAQMD condition #17154, part 41	P/D	Records, calculations	X	

Delta Energy Center
Title V CEMS Semi-Annual Monitoring Report
4/1/17-9/30/17

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
	BAAQMD condition #17154, part 38b	N		704 lb/yr for turbines and HRSGs combined	BAAQMD condition #17154, part 45	P/every two years on P-1, P-2, or P-3	Source test	X	
Specified PAH's	BAAQMD condition #17154, Part 38c	N		120 lb/yr for turbines, HRSGs, and auxiliary boiler combined	BAAQMD condition #17154, part 41	P/D	Records, calculations	X	
	BAAQMD condition #17154, Part 38c	N		120 lb/yr for turbines and HRSGs combined	BAAQMD condition #17154, part 41	P/every two years on P-1, P-2, or P-3	Source test	X	
Heat input limit		Y		None	40 CFR 75.10	C	Fuel meter, firing monitor, calculations	X	
Heat input limit	BAAQMD condition #17154, part 15	Y		2,125 MM BTU/hr (HHV), 3-hr average for each Turbine and HRSG, total	BAAQMD condition #17154, part 39a	C	Fuel meter, firing monitor, calculations	X	
	BAAQMD condition #17154, part 16	Y		50,024 MM BTU/calendar day (HHV), for each Turbine and HRSG, total	BAAQMD condition #17154, part 39a	C	fuel meter, firing monitor, calculations	X	
Heat Input Limit	BAAQMD condition #17154, part 17	Y		53,188,532 MM BTU/yr (HHV) for S-1, S-3, S-5, Turbines and S-2, S-4, S-6 HRSGs combined	BAAQMD condition #17154, part 39a	C	fuel meter, firing monitor, calculations	X	
Steam turbine cold start-up or combus-tor tuning	BAAQMD condition #17154, part 24	Y		30 hours per year per turbine	BAAQMD condition #17154, part 62	P/H	records	X	

Table VII – B
Applicable Limits and Compliance Monitoring Requirements
S-9, COOLING TOWER

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
Opacity	BAAQMD 6-1-301	N		> Ringelmann 1.0 for no more than 3 minutes in any hour		N		N/A	
Opacity	SIP 6-301	Y		> Ringelmann 1.0 for no more than 3 minutes in any hour		N		N/A	
FP	BAAQMD Regulation 6-1-310	N		0.15 gr/dscf		N		N/A	
FP	SIP Regulation 6-310	Y		0.15 gr/dscf		N		N/A	
Drift Rate	BAAQMD condition #17154, part 58	Y		0.0005%	BAAQMD condition #17154, part 59	P	Initial source test	X	
Total Dissolved Solids	BAAQMD condition #17154, part 58	Y		5233 ppmw (mg/l)	BAAQMD condition #17154, part 58	P/D	Sampling and testing of cooling tower water	X	

Table VII – C
Applicable Limits and Compliance Monitoring Requirements
S-10, FIRE PUMP DIESEL ENGINE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
Opacity	BAAQMD Regulation 6-303.1	N		Ringelmann 2.0 for 3 minutes in any hour		N		N/A	
Opacity	SIP Regulation 6-303.1	Y		Ringelmann 2.0 for 3 minutes in any hour		N		N/A	
FP	SIP Regulation 6-310	Y		0.15 gr/dscf		N		N/A	
FP	BAAQMD Regulation 6-1-310	N		0.15 gr/dscf		N		N/A	
SO_2	BAAQMD 9-1-301	Y		GLC of 0.5 ppm for 3 min. or 0.25 ppm for 60 min. or 0.05 ppm for 24 hours		N		N/A	
SO_2	BAAQMD 9-1-304	Y		Sulfur Content $\leq$ 0.5% by weight		N		N/A	
Reliability Related Hours	BAAQMD 9-8-330	N	1/1/12	100 hours until 1/1/12 50 hours after 1/1/12	9-8-502 9-8-530	P/E	Totalizing meter record keeping	X	
Reliability Related Hours	BAAQMD Condition #22851, part 1	N		34 hours per calendar year	BAAQMD Condition #22851, part 3, 4	P/E	Totalizing meter record keeping	X	

Table VII – D
Applicable Limits and Compliance Monitoring Requirements
S-11, Natural Gas Fired Emergency Generator

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
Opacity	BAAQMD 6-1-303.1	N		< Ringelmann 2.0, except for no more than 3 minutes in any hour		N		N/A	
Opacity	SIP 6-303.1	Y		< Ringelmann 2.0, except for no more than 3 minutes in any hour		N		N/A	
FP	BAAQMD Regulation 6-1-310	N		0.15 gr/dscf		N		N/A	
FP	SIP Regulation 6-310	Y		0.15 gr/dscf		N		N/A	
SO_2	BAAQMD Regulation 9-1-301	Y		GLC of 0.5 ppm for 3 min. or 0.25 ppm for 60 min. or 0.05 ppm for 24 hours		N		N/A	
SO_2	BAAQMD Regulation 9-1-302	Y		300 ppm (dry)		N		N/A	
Reliability Related Hours	BAAQMD 9-8-330	N	1/1/12	100 hours until 1/1/12 50 hours after 1/1/12	9-8-502	P/E	Totalizing meter record keeping	X	
Reliability Related Hours	BAAQMD Condition #21609, part 1	Y		100 hours per calendar year	BAAQMD Condition #22231, part 2 and 3	P/E	Record keeping	X	